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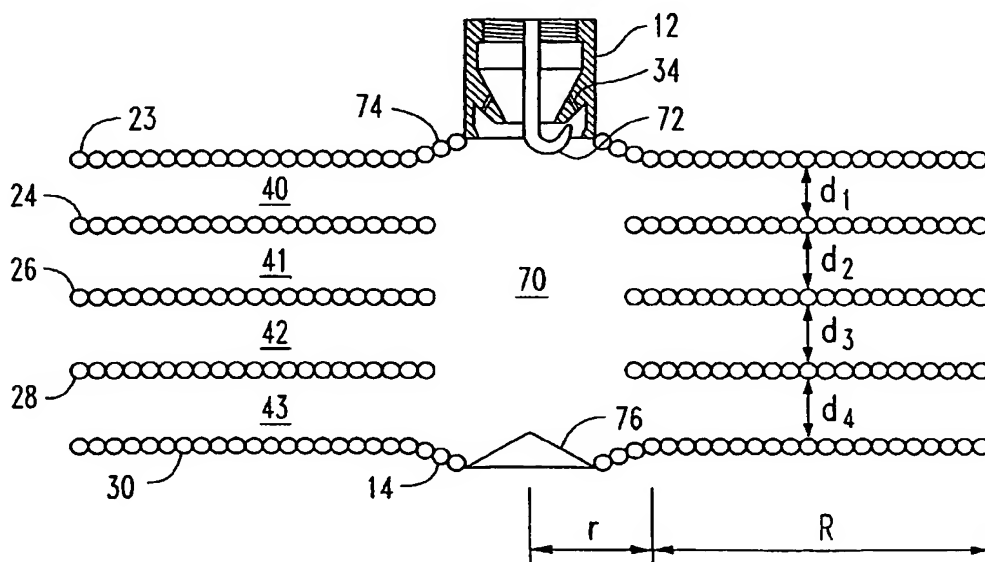
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(54) Title: MULTIPLE PLATE COMBUSTOR



(57) Abstract: The invention consists of a pulse combustor, comprising two spaced apart outer plates (23,30), the outer plates 5 having flat outer regions, conical regions (74,14) inside of the flat regions and central hubs, where the volume between conical regions of the plates defines a combustion chamber (70). The pulse combustor further comprises a plurality of intermediate plates (24,26,28) located between the outer plates, the plurality of intermediate plates being spaced apart to form tailpipe regions (40, 41,42,43) therebetween and between the outer plates and adjacent ones of the intermediate plates and a burner coupled to one of the hubs, the burner (12) operative to ignite a fuel/air mixture in the combustion chamber. The outer and intermediate plates have spiral coolant passageways therein for conducting cooling fluid to cool expanding gases traveling between the plates through the tailpipe regions. The invention further consists of a burner assembly for use in a combustion chamber.

WO 2004/031651 A3



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AMENDED CLAIMS

[received by the International Bureau on 24 January 2005 (24.01.05);
original claims 5 and 6 amended; claims 10 and 11 cancelled (2 pages)]

4. A pulse combustor according to claim 1, wherein each of said plates is made of spiral wound hollow stainless steel tubing.

5 5. A pulse combustor according to claim 4, wherein said outer plates each have a conical region proximates said combustion chamber, which conical region extends outwardly.

6. A pulse combustor according to claim 4, including
10 spacers between each plate to set the separation between adjacent plates.

7. A pulse combustor according to claim 6, wherein said burner assembly further includes a parabolic cone mounted
15 inside said elongated hollow tube with a circular end of said parabolic cone aligned with one end of said hollow elongated tube.

8. A pulse combustor according to claim 1, including an
20 inlet to said coolant passageway at a periphery thereof and an outlet from said coolant passageway proximate a center of said so that coolant flow is counter to ignited gas flow through said tailpipe regions.

25 9. A pulse combustor according to claim 6, wherein said hollow elongated tube is cylindrical and has a plurality of radially spaced apart elongated slots extending along a length of its cylindrical surface and including a plurality of elongated nozzle assemblies having nozzle openings spaced
30 along its length, said nozzle assemblies having a plenum

accessing said nozzle openings and each nozzle assembly affixed to an outer surface of said cylinder over an associated slot.

5